of the use of daptomycin in this setting. Compelte data, including PK to be available for presentation.

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BK AND JC POLYOMAVIRUS VIREMIA IN ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANT PATIENTS: THERAPEUTIC ROLE OF FOSCARNET

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Background: The human polyomaviruses (JCV and BKV) are ubiquitous. Infection acquired early in life remains latent in the B-lymphocytes of immunocompetent hosts. The exact significance of BKV and JCV reactivation following hematopoietic cell transplant (HCT) is unknown but is increasingly being implicated in hemorrhagic cystitis/nephritis (both BKV and JCV) as well as progressive multifocal leukoencephalopathy (JCV). Although cidofovir, with accompanying nephrotoxicity, is increasingly used for BKV-related hemorrhagic cystitis/nephritis, therapy for JCV is not currently established. **Methods:** Incidental observation of decline in the BKV and JCV viremia while receiving foscarnet (FOS) for herpes infection (CMV, VZV, HHV-6) in 4 HCT patients form the basis of this report. Quantification of BKV and JCV viremia was obtained using polymerase chain reaction (qPCR). Testing was repeated weekly or as indicated during the course of FOS. **Results:** Four patients with eleven initial or reactivation FOS-treatment episodes were recorded. The median age of 3 males and 1 female was 43.5 years (range 19–60). BKV/JCV reactivation occurred at a median of 73.5 days (range 33–398) which was asymptomatic in 3 patients; one patient had grade II hemorrhagic cystitis. FOS incidentally resulted in marked reduction in BKV and JCV viremia; the median time to $\geq$ 50% reduction in viremia was 8 days for both BKV and JCV. The best response for BKV and JCV was a median reduction of 89% (range 27–100) and 63% (range 26–98) in DNA copies respectively. **Conclusions:** Given the high incidence of nephrotoxicty with cidofovir, our observation warrants further assessment of FOS for the treatment of BKV and JCV infections in the allogeneic HCT patient.

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RECOMBINANT FACTOR 7A IN PAEDIATRIC STEM CELL TRANSPLANT SUPPORTIVE CARE

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Recombinant factor7a (r7a) is structurally almost identical to plasma derived VIIa and promotes haemostasis by activating factors IX and X when complexed to tissue factor. There is established use of r7a in trauma, surgical and obstetric bleeding, patients with acquired haemophilia, and in the management of haemophilia patients with inhibitors to factor VIII or IX. Increasing use of this drug has developed in haematology/oncology practice with varied outcomes. An audit of the use of r7a in the Stem Cell Transplant Unit at Royal Children's Hospital Brisbane was conducted.

Ten treatment episodes in six patients were identified (one patient pre stem cell collection, four patients immediately post BMT and one patient 12 mths post BMT). In the patient who developed intrathoracic bleeding post vascath insertion for stem cell collection, the bleeding responded to r7a in combination with other haemostatic agents with complete recovery. The four patients in the immediate post BMT period were managed during five bleeding episodes with a wide range of doses of r7a. Indications for r7a in these patients were bleeding due to: GVHD (3), mucositis (1), pulmonary haemorrhage (1). Three of these patients had GVHD with two of the three patients achieving a partial response to treatment and one without response. All three of these patients died with active bleeding. The fourth patient had two bleeding episodes (life threatening mucosal and pulmonary haemorrhage) and responded to treatment during both episodes.

One patient developed refractory immune mediated thrombocytopenia 12 months post allogeneic BMT for ALL. He received r7a during 4 separate treatment episodes (gastrointestinal bleeding, subdural haemorrhage, mucosal and gastrointestinal bleeding, during splenectomy). Bleeding was controlled on all four occasions.

All patients with refractory GVHD and gastrointestinal bleeding failed to have sustained responses and the outcomes in this group were universally poor. In those patients with reversible underlying pathology r7a was useful in sustaining haemostatic control with a good overall survival. r7a is an exciting addition to our haemostatic agents but the varied outcomes and high cost of this drug indicate that further study and development of guidelines for use in stem cell transplant is warranted.

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CYTOMEGALOVIRUS (CMV) SPECIFIC CYTOTOXIC T LYMPHOCYTES FROM A CMV SERO-NEGATIVE DONOR FOR PERSISTENT CMV INFECTION POST-TRANSPLANT

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Cytomegalovirus (CMV) reactivation following an allogeneic stem cell transplant (SCT) can be a challenging clinical situation when the stem cell donor is serologically negative for CMV or the graft has been T cell depleted. We present a patient with myelodysplastic syndrome who received a T cell depleted, haplo-identical SCT from his CMV sero-negative father and developed persistent CMV infection, uveitis, and encephalitis, despite several months of anti-viral agents, including ganciclovir, foscarnet, and cidofovir. He had improvement in his encephalitis but had persistent CMV viremia despite these agents. His CMV sero-negative father received a single vaccination with the Towne strain of CMV (from Dr. Stuart Adler, Medical College of Virginia), and 10 days later CMV specific cytotoxic T lymphocytes (CTL) were expanded using a pool of 15-mer CMV pp65 overlapping peptides. CMV pp65 CTL were stimulated once with peptide pulsed monocytes, had pp65 specific cytotoxicity, and lacked auto- or allo-reactivity by chromium release assay. All antivirals were discontinued two weeks prior to his CTL infusion due to pancytopenia, which was thought to be due to prolonged use of cidofovir. He received a single dose of 2×10^5 CMV CTL pp65/kg. CMV viral load decreased from 1900 copies/ml pre-infusion to 100 copies/ml three weeks post-infusion, which was followed by three consecutive weeks with no detectable CMV by PCR. All clinical signs of CMV infection have resolved, without the use of anti-CMV medications. CMV pp65 specific cytotoxicity was in the normal range by 4 weeks post-infusion. Unfortunately our patient was diagnosed with recurrent leukemia at 3 weeks post-infusion, precluding long-term follow-up of his immune status. Considering the fact that this patient did not receive any other intervention for his CMV infection during this time period, it seems possible that his clinical, immunologic and virologic improvement could have occurred as a result of the CMV CTL infusion. The vaccination was well tolerated by the donor, and the culture method was relatively simple, making this a strategy that can be applied in similar situations.

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AIR FILTRATION IN STEM CELL TRANSPLANT UNITS: IS IT ALWAYS NECESSARY?

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Infections are a significant cause of morbidity and mortality in recipients of allogeneic haematopoietic stem cell transplants. International guidelines exist regarding prevention and treatment of bacterial, viral and fungal infections in this setting. The use of HEPA filtered air is often mandated by best practise guidelines to reduce infection, especially Aspergillus and other spore born fungi. The evidence basis for this is debatable and implementation of these